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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,105	04/18/2001	Hajime Kimura	SEL 253	9007

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EXAMINER

DONG, DALEI

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,105

Applicant(s)

KIMURA, HAJIME

Examiner

Dalei Dong

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-72 is/are rejected.
- 7) ☒ Claim(s) 43,47-55,62 and 69 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/837,105.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 43, 47-55, 62 and 69 are objected to because of the following informalities: the inequality sign is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,011,529 to Ikeda in view of U.S. Patent No. 5,771,328 to Wortman.

Regarding to claims 1-72, Ikeda discloses in Figures 11, "an active matrix drive circuit according to the third embodiment of the present invention. In FIG. 11, reference numeral 41 denotes an amorphous silicon thin-film field-effect transistor (hereinafter referred to as "TFT") of a reverse-stagger structure as a driving transistor, numeral 42 a data line, numeral 43 a scanning line, numeral 44 an electron-injection electrode, numeral 45 a capacitance line for forming capacitance relative to the electron-injection electrode 44" (column 10, line 32-40).

Ikeda also discloses in Figure 12, "numeral 46 denotes a transparent glass substrate, numeral 47 a gate insulating film, numeral 48 a gate electrode of the TPT 41,

Art Unit: 2875

numeral 49 an island of the TFT 41, numeral 50 a source electrode of the TFT 41, and numeral 51 a drain electrode of the TFT 41. Further, in FIG. 12, numeral 52 denotes an electron-injection electrode formed of MgAg, numeral 53 a contact hole, numeral 54 organic thin-film layers composed of a spacer layer 54A, an organic luminescent layer 54B and a hole-injection layer 54C and forming an organic thin-film EL element of a charge-injection type as a light-emitting element, numeral 55 a hole-injection electrode formed of ITO (indium-tin-oxide) for guiding out light, and numeral 56 a light-emitting element insulating film” (column 10, line 42-55).

However, Ikdea does not disclose a light scattering body. Wortman teaches in Figure 1, “This film 10 may be manufactured from a suitable polymeric, acrylic, polycarbonate, UV-cured acrylate, or like material and has a smooth surface 14 and a structured surface 12 opposite the smooth surface. The structured surface 12 includes an array of linear prism elements 16 arranged side by side to form a plurality of peaks 17 and grooves 18 running the length of the film. In use, light which is incident upon the smooth surface 14 of this film at a relatively high incidence angles is refracted at the smooth surface 14 and the structured surface 12 of the film and is redirected toward an axis which is perpendicular to the smooth surface of the film. Additionally, light which strikes the structured surface 12 at greater than the critical angle undergoes total internal reflection from both side surfaces, or facets, 20 of a prism element 16 and is directed back into the display, where it may be recycled by a reflective surface. By a combination of refraction and total internal reflection, the film 10 increases the amount of light which

is directed 'on axis' and decreases the amount of light which is directed 'off axis'" (column 3, line 20-39).

Wortman also teaches in Figure 3, "light directing film in accordance with the present invention. The film 30 includes a first surface 32 and an opposing structured surface 34 which includes a plurality of substantially linearly extending prism elements 36. Each prism element 36 has a first side surface 38 and a second side surface 38', the top edges of which intersect to define the peak, or apex 42 of the prism element 36. The bottom edges of side surfaces 38, 38' of adjacent prism elements 36 intersect to form a linearly extending groove 44 between prism elements. In the embodiment illustrated in FIG. 3, the dihedral angle defined by the prism apex 42 measures approximately 90 degrees, however it will be appreciated that the exact measure of the dihedral angle in this and other embodiments may be varied in accordance with desired optical parameters. It is known in the art to use prism elements having dihedral angles which measure between 70.degree. degrees and 110.degree." (column 3, line 60-67 to column 4, line 1-9).

Wortman further teaches "the structured surface 34 of film 30 may be described as having a plurality of alternating zones of prism elements having peaks which are spaced at different distances from a common reference plane. The common reference plane may be arbitrarily selected. One convenient example of a common reference plane is the plane which contains first surface 32; another is the plane defined by the bottom of the lower most grooves of the structured surface, indicated by dashed line 39. In the embodiment illustrated in FIG. 3, the shorter prism elements measure approximately 50

microns in width and approximately 25 microns in height, measured from dashed line 39, while the taller prism elements measure approximately 50 microns in width and approximately 26 microns in height. Importantly, the width of the zone which includes the taller prism elements preferably measures between about 1 micron and 300 microns. By contrast, the width of the zone which includes the shorter prism elements is not critical and, in the disclosed embodiment, measures between 200 microns and 4000 microns. It is preferable, however, that in any given embodiment the zone of shorter prism elements be at least as wide as the zone of taller prism elements. It will be appreciated by one of ordinary skill in the art that the article depicted in FIG. 3 is merely exemplary and is not intended to limit the scope of the present invention. For example, the height or width of the prism elements may be changed within practicable limits--it is practicable to machine precise prisms in ranges extending from about 1 micron to about 175 microns. Additionally, the dihedral angles may be changed or the prism axis may be tilted to achieve a desired optical effect" (column 4, line 10-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilize the light directing film of Wortman for the display device of Ikeda in order to reduces undesirable optical coupling between adjacent sheets of light directing film without sacrificing the optical performance of the article and further controls undesirable optical coupling between its structured surface and an adjacent surface.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a self-emitting device.

U.S. Patent No. 5,684,365 to Tang.

U.S. Patent No. 5,781,255 to Yamamoto.

U.S. Patent No. 5,932,892 to Hseuh.

U.S. Patent No. 5,990,629 to Yamada.

U.S. Patent No. 6,052,164 to Cobb, Jr.

U.S. Patent No. 6,104,041 to Hsueh.

U.S. Patent No. 6,246,179 to Yamada.

U.S. Patent No. 6,476,550 to Oda.

U.S. Patent No. 6,508,564 to Kuwabara.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (703)308-2870. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703)305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Application/Control Number: 09/837,105

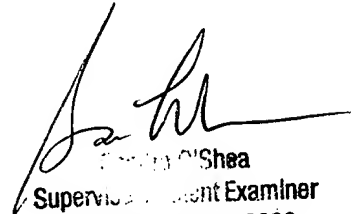
Page 7

Art Unit: 2875

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D.D.

March 31, 2003



Joseph P. Shea
Supervisory Patent Examiner
Technology Center 2800